UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
SOLID WASTE AND EMERGENCY
RESPONSE

From: Chris Rhyne and Nancy Hunt

To: Stephen Heare, Acting Director
Permits and State Programs Division

Subject: Report on Site Visit to LaSalle Nuclear Power Plant
Commonwealth Edison Company

Background

On March 5, 1998, members of the EPA mixed waste team (Nancy Hunt, Chris Rhyne, and Rajani Joglekar of OSW; Melanie Garvey of OECA; and Eric Glatstein of EPA Region 5) conducted a site visit to Commonwealth Edison's (ComEd) LaSalle County Station Nuclear Power Plant to gather information concerning the generation, storage, and disposal of low level radioactive wastes, and mixed wastes. ComEd staff included: Jenni Cawein, USWAG ComEd contact; Grace Majewski, RCRA Mixed Waste/Environmental Services Department; Charles Jeanblanc, LaSalle Station Radiation Waste Manager; Miguel Azar, Radiation Waste Management; Frederic Bevington, Hazardous Material Coordinator, and Waste Products Chemist; Dwight Bowman, LaSalle Chemistry Manager; Tim O'Conner, Plant Manager; and Fred Dacimo, Site Vice President. Also in attendance was Malcolm Woolf of Piper and Marbury.

LaSalle County Station is the fourth two-reactor station in the network that serves Chicago and the northern one-fourth of Illinois. This power generating station is located on 3060 acres in the agricultural area of Brookfield Township, LaSalle County, Illinois. It is approximately 55 direct-line miles southwest of Chicago and 20 miles west of Dresden Nuclear Power Station (see also Dresden trip report). The plant is on flat terrain about 220 feet above the Illinois River channel which traverses north central Illinois some 3-1/2 miles to the north of the site.

The construction of the station was authorized on September 10, 1973 and Units 1 and 2 began commercial operation on January 1, 1984 and October 19, 1984, respectively. The station utilizes two boiling water reactors (BWR), each licensed at 3323 megawatts thermal. The gross output of each unit is 1130 megawatts electrical from each General Electrical turbine generator.

Condenser cooling for the station is provided from a perched cooling lake of 2058 acres. The ultimate heat sink for emergency core cooling is a submerged pond and intake flume of 458 acre-feet capacity that underlies the cooling lake and the natural grade of the site. A small river screen house, located on the Illinois River, provides makeup water to the cooling lake for the station.

As an aside, ComEd is the largest producer of nuclear energy in the United States. In terms of rad waste disposal, ComEd ships 12 percent of the waste and 25 percent of the curies received by the Barnwell, SC low-level waste disposal facility.

Waste characterization

The LaSalle facility has 175 containers of legacy mixed waste on site for which treatment or disposal is not available. Waste is stored in 55-gallon drums with the exception of three 96 cu. ft. bins of dry-cleaning filters, and a 30-gallon drum of waste grout and cleaner. Legacy wastes are classified in one of three major categories, liquids, damp solids/sludges, or dry solids. In the dry solids category there are seven containers of dry-cleaning filters contaminated with Freon (318 cu. ft.), one drum of oil dry and absorbed liquid (7.5 cu. ft.), and one drum of waste Turco® (2.5 cu. ft.). In the damp solids/sludges category there are two drums of flammable solvent solids (85 gal.), one drum of Freon solids (20 gal.), 44 drums of paint solids (1980 gal.), two drums of stripper sludge and solids (70 gal.), and one container of waste grout and cleaner. In the liquids category there are 116 drums of Freon liquids (6335 gal.). Some of these drums may contain other waste codes; however, for the purpose of classification, only the main waste code is used. Most of these wastes are class A. The exceptions are some of the Freon filters which are Class B and C.

Like the other nuclear power plants that we have visited, serious attempts have been made with the several existing mixed waste management vendors to treat and dispose of LaSalle's mixed waste. Recently, LaSalle was able to send 34 drums of waste to DSSI at a cost of about $500,000. ComEd's experience with Molten Metals Technology (MMT) has not been as good. ComEd conducts an independent audit of all treatment and disposal facilities to which they ship mixed waste, and is concerned about the economic stability of MMT. The recent bankruptcy and restructuring of MMT raises further concern for the possibility of a future Superfund site and the associated responsible party liability. ComEd has also questioned the basis of MMT's recycling process. The bottom line is that, at this time, ComEd is not comfortable dealing with MMT for disposal of its wastes.

LaSalle's waste minimization efforts are significant. Examples of such efforts include screening all chemicals used on site; the banning of chlorinated oils; the disposal of painting tools (rather than cleaning for reuse) to eliminate cleaning solvents; paint removal by sand blasting, nitrogen dioxide or other nonhazardous material; and dispensing only the amount of substance necessary to complete a task. As a result, no mixed wastes were generated at the site in 1997. LaSalle normally expects from one to three 55-gallon drums of mixed waste to be

generated annually.

Waste Storage

The LaSalle facility has a dedicated mixed waste storage building. For the purposes of reducing the radiation hazard, we were advised not to enter the storage area during our visit. However, LaSalle personnel opened the large loading door on the front of the building allowing us a clear view of the storage area. As with other utilities we visited, the storage area was very clean, well lit, and ventilated. In addition, the drums were neatly stacked, with secondary containment, and adequate aisle space. Although all drums were not visible, there were no obvious signs of leaking or deteriorating drums.

ComEd's Regulatory Reform Position

The ComEd people clearly indicated that regulatory relief which consisted only of relief from requiring a storage permit, allowing long-term storage under NRC oversight, was not especially helpful to them. They felt that the only relief of value needed to include an option to ship waste to non-RCRA permitted LLW treatment facilities, such as the former SEG, for treatment or disposal. OSW staff immediately responded by saying that level of relief would not be available, since off-site treatment (particularly thermal treatment) of mixed waste at a facility without a RCRA permit would be unprecedented, and would be opposed both by EPA management and the public.